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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ADAMS, CHARLES D

ART UNIT	PAPER NUMBER
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2164

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/815,253	Applicant(s) PEH, THOMAS	
	Examiner Charles D. Adams	Art Unit 2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-14 is/are rejected.
- 7) ☒ Claim(s) 6 and 15-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

SAM RIMELL
PRIMARY EXAMINER

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5, 10-12, and 14 rejected under 35 U.S.C. 102(e) as being anticipated by Matsubayashi et al. (US Pre-Grant Publication 2003/0101177, hereinafter "Matsubayashi et al. ('177)").

As to claim 1, Matsubayashi et al. ('177) teaches:

Receiving the query (see paragraph [0076]);

Forming a reduced query document based on ranks of terms in the specified document (see paragraph [0079]);

Generating a modified query based on the query and the reduced query document (see paragraph [0079] and Figure 9, element 901);

Executing the modified query on a data repository to generate a set of results (see paragraphs [0080]-[0081]); and

Providing a result to a user interface (see paragraph [0067]).

As to claim 2, Matsubayashi et al. ('177) teaches:

Wherein the result comprises a document that is similar to the specified document (see paragraphs [0067] and [0086]. A list of references it output. This comprises a document).

As to claim 3, Matsubayashi et al. ('177) teaches:

Wherein the result comprises a list of references to documents that are similar to the specified document (see paragraphs [0067] and [0086]. A list of references it output).

As to claim 5, Matsubayashi et al. ('177) teaches:

Wherein forming the reduced query document based on ranks of terms in the specified document excludes terms that are less selective (see paragraph [0079] "the feature word selection program is activated for selectively reading from the work area as the feature words the words whose weights are not smaller than a predetermined value").

As to claim 10, Matsubayashi et al. ('177) teaches:

A data repository, wherein the data repository is configured to store documents (see paragraph [0070] and [0075]); and

A program for executing queries on the data repository, wherein the program is operative to:

Receive a query for at least one document similar to a specified document (see paragraph [0076]);

Form a reduced query document based on ranks of terms in the specified document (see paragraph [0079]);

Generate a modified query based on the query and the reduced query document (see paragraph [0079] and Figure 9, element 901);

Execute the modified query on the query repository to generate a set of results (see paragraphs [0080]-[0081]); and

Provide a result to a user interface (see paragraph [0067]).

As to claim 11, Matsubayashi et al. ('177) teaches:

Wherein the result comprises a document that is similar to the specified document (see paragraphs [0067] and [0086]. A list of references it output. This comprises a document).

As to claim 12, Matsubayashi et al. ('177) teaches:

Wherein the result comprises a list of references to documents that are similar to the specified document (see paragraphs [0067] and [0086]. A list of references it output).

As to claim 14, Matsubayashi et al. ('177) teaches:

Wherein the operation of forming the reduced query document based on ranks of terms in the specified document excludes terms that are less selective (see paragraph [0079] "the feature word selection program is activated for selectively reading from the work area as the feature words the words whose weights are not smaller than a predetermined value").

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsubayashi et al. (US Pre-Grant Publication 2003/0101177, hereinafter "Matsubayashi et al. ('177)") in view of Ford et al. (US Pre-Grant Publication 2003/0195877).

As to claim 4, Matsubayashi et al. ('177) teaches a method in accordance with claim 1.

Matsubayashi et al. ('177) does not explicitly teach wherein the result indicates that no similar document was found in the repository.

Ford et al. teaches wherein the result indicates that no similar document was found in the repository (see paragraph [0043] and [0168]. Ford et al. teaches that when there are no results to a query, a page is displayed informing a user).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Matsubayashi et al. ('177) by the teaching of Ford et al., since it is well known in the art to inform a user when a user's query does not have any result. A person of ordinary skill would recognize the utility of informing a user that his or her query returned no results, because that would make it clear to the user that their query may be restrictive and to broaden or change their query as necessary.

As to claim 13, Matsubayashi et al. ('177) teaches the system of claim 10.

Matsubayashi et al. ('177) does not teach wherein the result indicates that no similar document was found in the data repository.

Ford et al. teaches wherein the result indicates that no similar document was found in the data repository (see paragraph [0043] and [0168]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Matsubayashi et al. ('177) by the teaching of Ford et al., since it is well known in the art to inform a user when a user's query does not have any result. A person of ordinary skill would recognize the utility of informing a user that his or her query returned no results, because that would make it

clear to the user that their query may be restrictive and to broaden or change their query as necessary.

5. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsubayashi et al. (US Pre-Grant Publication 2003/0101177, hereinafter "Matsubayashi et al. ('177)") in view of Matsubayashi et al. (US Pre-Grant Publication 2003/0065658, hereinafter "Matsubayashi et al. ('658)").

As to claim 7, Matsubayashi et al. ('177) teaches a method in accordance with claim 1.

Matsubayashi et al. ('177) does not teach wherein the data repository is modeled in accordance with a vector space model and executing the modified query comprises calculating the similarity of the reduced query document with a comparison document in the data repository in accordance with the function $Q \cdot D / |Q| * |D|$ where Q is the reduced query document, D is the comparison document, $Q \cdot D$ is a scalar product of column vectors corresponding to each document such that each column is a vector including ranks of terms in the documents, and $|Q| * |D|$ is a normalization factor.

Matsubayashi et al. ('658) teaches wherein the data repository is modeled in accordance with a vector space model and executing the modified query comprises calculating the similarity of the reduced query document with a comparison document in the data repository in accordance with the function $Q \cdot D / |Q| * |D|$ where Q is the

Art Unit: 2164

reduced query document, D is the comparison document (see paragraphs [0023]-[0027]. Vector A indicates the seed document (query document), and vector B indicates the registration document (comparison document)), $Q \cdot D$ is a scalar product of column vectors corresponding to each document such that each column is a vector including ranks of terms in the documents (cosines of angles respectively between the seeds document characteristic vector and the registration document characteristic vectors, paragraph [0025]), and $|Q| * |D|$ is a normalization factor (see paragraphs [0023]-[0027]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Matsubayashi et al. ('177) by the teachings of Matsubayashi et al. ('658), since Matsubayashi et al. ('658) teaches "Particularly, in a knowledge management system for use in a firm, documentation of experiences, know-how, and the like of experts is increasingly desired to share and to use the experiences and know-how in documents resulted from the documentation. A high-precision search or retrieval function to simply and appropriately searches a large amount of knowledge accumulated in various forms in the organization of the firm for information desired by the user is quite important in the knowledge management system".

As to claim 8, Matsubayashi et al. ('177) as modified teaches wherein the normalization factor is the product of the norms of the column vectors corresponding to each document calculated in accordance with the equation

Art Unit: 2164

$\sqrt{q_1^2 + \dots + q_T^2} \cdot \sqrt{d_1^2 + \dots + d_T^2}$ where $\sqrt{}$ signifies square root, q_1 through q_T are ranks of terms in the reduced query document, d_1 through d_T are ranks of terms in the comparison document, and T is the number of terms in an index of document vectors generated in accordance with the vector space model of the data repository (see paragraph [0025] and elements 403 and 407 of Figure 22 for the first equation listed and 407 and 404 of Figure 22 for the second equation present. Characteristic words have a 'rank' of '1'. In the first equation, four characteristic words exist in seed vector 407 and six in seed vector 403. The result has a normalization of $\sqrt{4} \cdot \sqrt{6}$).

As to claim 9, Matsubayashi et al. ('177) as modified teaches wherein the scalar product of the column vectors is calculated in accordance with the equation $(q_1.d_1 + q_2.d_2 + \dots + q_T.d_T)$ where q_1 through q_T are ranks of terms in the reduced query document, d_1 through d_T are ranks of terms in the comparison document, and T is the number of terms in an index of document vectors generated in accordance with the vector space model of the data repository (see paragraph [0025] and elements 403 and 407 of Figure 22 for the first equation listed and 407 and 404 of Figure 22 for the second equation present. Characteristic words have a 'rank' of '1'. A comparison of the words in elements 403 and 407 reveal that only the 3rd word of element 407 is present in

element 403's list. The numerator of the first equation matches this, with " $1 \times 0 + 1 \times 0 + 1 \times 1 + 1 \times 0$ ").


Allowable Subject Matter

6. Claim 6 and 15-18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Adams whose telephone number is (571) 272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


SAM RIMELL
PRIMARY EXAMINER

Art Unit: 2164

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles Adams
AU2164